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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,996	07/16/2003	Mender Chen	13859 B	1000

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EXAMINER	
TRAN, THUY V	
ART UNIT	**PAPER NUMBER**
2821	

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/621,996	CHEN ET AL.	
	Examiner	Art Unit	
	THUY V. TRAN	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7* is/are rejected.

7)☒ Claim(s) *5 and 6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is a response to the Applicants' filing on 07/16/2003. Claims 1-7 are currently presented in the instant application.

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Drawings Accepted

2. The drawings submitted on 7/16/2003 are accepted.

Claim Objections/ Minor Informalities

3. Claim 3 is objected to because of the following informalities:

Claim 3, line 3, "and" (first occurrence) should be deleted; --connected to the low frequency control unit,--should be inserted between "electrode" (first occurrence) and "and" (second occurrence).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nutter (U.S. Patent No. 4,396,872).

With respect to claim 1, Nutter discloses, in Figs. 1 and 2, a lamp actuating facility comprising (1) a plurality of lamps [18] (see Figs. 1 and 2); each including an output terminal (at point connected to lamp current sensor [80]; see Fig. 2), (2) an inverter circuit [43, 44] coupled to the lamps to convert electric power and to energize the lamps, (3) a low frequency control unit [30] (see Fig. 2) coupled to the inverter circuit to set an average current value at the output terminals of the lamps (see col. 4, lines 14-22), and to control the inverter circuit, (4) a plurality of current detecting units [80] (see Figs. 1 and 2) coupled between the lamps and the low frequency control unit respectively to obtain the average current value at the output terminals of the lamps, and to send the average current value back to said low frequency control unit, and (5) a plurality of regulating devices [50] (see Figs. 1 and 2) coupled between the lamps and the low frequency control unit respectively to control electric power through the lamps and to maintain each of the lamps at the average current value (see col. 4, lines 14-22).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nutter (U.S. Patent No. 4,396,872) in view of Henry (Pub. No. US 2004/0032223).

With respect to claims 2 and 3, Nutter discloses, in Figs. 1 and 2, all of the claimed subject matter, as expressly recited in claim 1, except for a MOSFET coupled between the inverter circuit and the low frequency control circuit, wherein the MOSFET includes a drain electrode coupled to the inverter circuit via an inductor, a gate electrode coupled to the low frequency control unit, and a source electrode connected to ground.

Henry discloses, in Fig. 8, a power conversion circuit comprising a MOSFET [804] coupled between an inverter circuit [200, 201, 202, 203] and a control circuit [820], wherein the MOSFET includes a drain electrode coupled to the inverter circuit via an inductor [806], a gate electrode coupled to the control unit [820], and a source electrode connected to ground.

It would have been obvious to one of ordinary skills in the art at the time of the invention to modify the device circuit of Nutter by additionally configuring a MOSFET between the inverter circuit and the low frequency control circuit, wherein the MOSFET includes a drain electrode coupled to the inverter circuit via an inductor, a gate electrode coupled to the low frequency control unit, and a source electrode connected to ground in order to compensate for input voltage fluctuations and thus to effectively control the lamps since such a configuration of the MOSFET with respect to the related part/components of the circuit for the stated purpose has been a well known practice in the art as evidenced by the teachings of Henry (see paragraph [0060], lines 1-4; paragraph [062], lines 1-3).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nutter (U.S. Patent No. 4,396,872).

With respect to claim 4, Nutter discloses, in Figs. 1 and 2, all of the claimed subject matter, as expressly recited in claim 1, including a switch [60] in each of the regulating devices [50] (see Fig. 2). Nutter does not teach that the switch has a base coupled to the low frequency control circuit, a collector coupled to electric power source, and an emitter grounded.

However, as clearly disclosed in Fig. 2 of Nutter, the switch [60] has three terminals, wherein the first is coupled to the low frequency control circuit, the second is coupled to a power source (through capacitor [58]; see Fig. 2), and the third is coupled to ground. Furthermore, it has been well known that transistor is a three-terminal device and functions as a switch (see prior art of record; U.S. Patent No. 4,870,327). Therefore, to implement the switch [60] of the circuit of Nutter with a transistor having a base coupled to the low frequency control circuit, a collector coupled to electric power source or capacitor [58], and an emitter coupled to ground to enhance operation speed and thus to improve the overall performance of the circuit would have been deemed obvious to a person skilled in the art of power electronics.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nutter (U.S. Patent No. 4,396,872) in view of Hernandez et al. (U.S. Patent No. 3,916,251)

With respect to claim 7, Nutter discloses, in Figs. 1 and 2, all of the claimed subject matter, as expressly recited in claim 1, except that each of the current detecting units includes an integrator circuit.

Hernandez et al. discloses, in Fig. 3b, a current detecting circuit [78], which comprises an integrator circuit [206, 208].

It would have been obvious to one of ordinary skills in the art at the time of the invention to implement the current detecting circuit of Nutter by configuring therein an integrator circuit to obtain a signal corresponding to an RMS value of the actual current that flows through each lamp since such an inclusion of the integrator circuit in the current detecting circuit for the stated purpose has been well known in the art as evidenced by the teachings of Hernandez et al. (see col. 11, lines 40-42).

Allowable Subject Matter

10. Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest a lamp actuating facility wherein each of the regulating devices further includes a first resistor having two ends, a second resistor, a second transistor having a base coupled to the collector of the first transistor, and having a collector and an emitter coupled to the ends of the first resistor, and then grounded via the second resistor, in combination with the remaining claimed limitations as called for in claim 5 (claim 6 is allowable following the allowability of claim 5 since claim 6 is dependent on claim 5).

Citation of relevant prior art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Katyl et al. (U.S. Patent No. 5,838,116) discloses an electronic ballast for fluorescent lamps.

Prior art Jorgesen (U.S. Patent No. 4,870,327) discloses a high frequency ballast for fluorescent lamps.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUY V. TRAN whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:30 AM-6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DON K. WONG can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THUY V. TRAN
Examiner
Art Unit 2821

T.T.
04/16/2004